

LONDON- WEST MIDLANDS ENVIRONMENTAL STATEMENT

Volume 5 | Technical Appendices

CFA15 | Greatworth to Lower Boddington

Baseline (SV-002-015)

Sound, noise and vibration

November 2013

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Department
for Transport

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1 Introduction

1.1 Structure of the sound, noise and vibration appendices

- 1.1.1 The sound, noise and vibration appendices comprise four sections. The first of these is an introduction to the relevant policy and methodology (Volume 5: Appendix SV-001-000). This relates to the sound, noise and vibration assessment for all community forum areas (CFA).
- 1.1.2 For the Greatworth to Lower Boddington area, the other three sections are as follows:
- baseline sound, noise and vibration (Volume 5: Appendix SV-002-015) (this appendix);
 - construction sound, noise and vibration (Volume 5: Appendix SV-003-015); and
 - operational sound, noise and vibration (Volume 5: Appendix SV-004-015).
- 1.1.3 Maps referred to within this appendix are contained in the Volume 5, Noise, Sound and Vibration Map Book.
- 1.1.4 This appendix includes details of the existing and future baseline sound environment within the area. It provides details of measurements and any other data collection which has been undertaken in order to obtain existing and future baseline sound levels.

1.2 Existing acoustic environment

- 1.2.1 The existing baseline sound environment for this area varies significantly with location.
- 1.2.2 In the north eastern section of Greatworth the main sound source is local traffic on Helmdon Road with typical sound levels of around 45 to 50dB¹ during the day. Sound levels reduce in the village at locations further away from this road. During lulls in local traffic, more distant intermittent traffic on the B4525 becomes audible. Other sound sources in the area include activity at residential properties and the rustling of foliage in the breeze. Noise levels in this locality are lower at night with typically values between around 35 to 45dB² prevailing.
- 1.2.3 The soundscape in Thorpe Mandeville is comprised of relatively constant distant road traffic and intermittent traffic on local roads, with typical sound levels of around 45dB during the day, sometimes lower at locations without direct sight of the roads. Other sources of sound include occasional overflying aircraft and agricultural activities in the area. Noise levels are typically around 5dB lower at night as road traffic reduces.
- 1.2.4 In Chipping Warden and nearby areas the dominant sound source is traffic using the A361 Byfield. In the village, properties situated in close proximity to the A361 Byfield Road are exposed to relatively high sound levels of typically around 65 to 70 B during the day. Further back from this road the levels are reduced through a combination of

¹ Quoted dB values at residential areas refer to the free-field 16 hour daytime (07:00 to 23:00) equivalent continuous sound pressure level, $L_{pAeq,16hr}$.

² Night-time sound levels refer to the free-field 8 hour night-time (23:00 to 07:00) equivalent continuous sound pressure level, $L_{pAeq,8hr}$.

distance and screening attenuation with typically a level of around 50dB during the day. Other sound sources in the area include occasional overflying aircraft, intermittent local road traffic and birdsong. Noise levels are lower at night as traffic reduces, with typically approximately 60dB at locations close to the A361 and around 40-45dB at screened locations further from the road.

- 1.2.5 The sound climate in Aston le Walls reflects the rural location of the village with typical daytime sound levels of approximately 45dB. The sound of distant road traffic on the A361 Byfield Road to the south east of the village is interspersed with occasional sound of traffic on the local roads. Other contributory sounds include bird song, the rustling of vegetation and occasional aircraft over-flights. Noise levels are lower at night as traffic reduces, with typical levels of around 40dB.
- 1.2.6 The dominant sound source in Lower Boddington is traffic on Banbury Road which produces a typical daytime sound level of approximately 60dB at properties near to the road, reducing to around 45dB at locations further from the road. Other sound sources in the area include intermittent local road traffic, occasional aircraft, farm activities, birdsong, pedestrians and activities at residential dwellings. Noise levels are lower at night as traffic reduces, with typically approximately 50dB near Banbury Road, and down to around 35dB at locations further from the roads.
- 1.2.7 The soundscape at the more isolated properties throughout the area varies but tends to be characterised by lower overall sound levels compared to the settlements, and is usually influenced by proximity to nearby roads and the amount of traffic on those roads. Most locations in the area are subject to the occasional sound of aircraft over flight and each property is subject to specific local noises that could include agricultural activities, birdsong, rustling leaves, and industrial or commercial activities depending on the locality.
- 1.2.8 A unique feature of the sound environment has been identified at one location Manor Cottages, Lower Thorpe, where typically the daytime sound level is approximately 45dB. The feature identified comprises water flow noise from a brook located to the north-east of the measurement location, consequently night time noise levels only reduce by around 4dB compared to daytime levels.

2 Scope, assumptions and limitations

2.1 Sound and vibration sensitive receptors

2.1.1 Within the Greatworth to Lower Boddington area, 112 assessment locations have been defined to represent all identified sound and vibration sensitive receptors within the spatial scope. The assessment locations are shown on the detailed maps in Map Series SV-03 and SV-04 (Volume 5, Sound, Noise and Vibration Map Book). Within this area, the following types of sound and vibration sensitive receptors have been identified:

- residential areas;
- education facilities;
- community centres and meeting facilities;
- places of worship; and
- healthcare facilities.

2.2 Local engagement

2.2.1 Discussions have been held with representatives of South Northamptonshire District Council regarding the approach which has been taken to baseline monitoring within this area, the identification of noise and vibration sensitive receptors, the selection of assessment location and baseline sound levels at these assessment locations.

2.2.2 Changes suggested during these meetings have influenced the assessment locations used and the monitoring undertaken and reported in this document.

2.2.3 Representatives of South Northamptonshire District Council were invited to attend baseline sound measurements and witness the measurement procedures used. Unfortunately no officers were able to attend the invitations.

2.2.4 Local engagement through community forum meetings has also provided the opportunity for local groups to suggest appropriate baseline sound monitoring locations. Any suggestions received from these groups have been considered and have influenced the monitoring undertaken and reported in this document.

2.3 Existing baseline sound monitoring locations

2.3.1 In parts of this area, due to limited land access, baseline sound levels have been derived by means of extrapolation of sound levels measured at similar locations in the area.

2.3.2 Maps showing the baseline sound monitoring locations and assessment locations within this area are included in Map Series SV-03 and SV-04 (Volume 5, Sound, Noise and Vibration Map Book).

3 Environmental baseline

3.1 Existing baseline data collection methodology

- 3.1.1 The overall approach to baseline data collection for sound noise and vibration is described in Volume 5: Appendix SV-001-000.
- 3.1.2 Over the Greatworth to Lower Boddington area, a large number of baseline sound measurements have been undertaken. These have been classified as follows:
- long-term measurements – unattended measurements of several days duration;
 - medium-term measurements – attended measurements of several hours duration (generally repeated at different times of day); and
 - short-term measurements – attended measurements typically of 30 minutes duration (generally repeated at different times of day).
- 3.1.3 In this CFA a total of 37 baseline sound level measurements have been undertaken.
- 3.1.4 To the east of Greatworth, long-term measurements were undertaken at two isolated residential properties that are in close proximity to the Proposed Scheme.
- 3.1.5 Four long-term measurements were made at residential properties in Greatworth and where baseline sound levels were judged to be representative of those at surrounding properties. To the north of Greatworth, a long-term measurement was made at an isolated residential property in a rural setting.
- 3.1.6 In Thorpe Mandeville, six long-term measurements were made at residential properties. In addition, a short-term measurement was undertaken at a publically accessible location to supplement the long-term measurements.
- 3.1.7 In Lower Thorpe (to the north-east of Thorpe Mandeville) a single long-term measurement was made at a property where baseline sound levels were representative of those at surrounding properties. Along Banbury Lane, to the north east of Lower Thorpe, two long-term measurements were made at residential properties.
- 3.1.8 To the east of Edgcote, close to Trafford Bridge, a single long-term measurement was carried out at an isolated property to the south of the River Cherwell. Two short-term measurements were undertaken in Edgcote to provide baseline sound levels representative of the area.
- 3.1.9 Two long-term measurements were undertaken at residential properties in Chipping Warden, these measurements were supplemented by two additional short-term measurements in the village. To the east of Chipping Warden, two long-term measurements were undertaken at an isolated residential property on Culworth Road.
- 3.1.10 A long-term measurement was undertaken at a residential property in the hamlet of Appletree.
- 3.1.11 In Aston Le Walls a long-term measurement was undertaken in a residential area off Main Street. This was supplemented by an additional short-term measurement at a nearby publicly accessible location.

- 3.1.12 In Lower Boddington four short-term measurements and one long-term measurement have been undertaken at various locations throughout the village. Two additional long-term measurements were taken at residential properties on the outskirts of Lower Boddington.
- 3.1.13 A single long-term measurement was undertaken at a property, in close proximity to the Proposed Scheme, situated on Banbury Road to the north-west of Lower Boddington.

3.2 Existing baseline sound levels

- 3.2.1 From the measurements described in Section 3.1, baseline sound levels have been ascertained for each assessment location within this area. These levels are presented in terms of the following key sound indicators:
- For the operational sound assessment
 - $L_{pAeq,16hr\text{ weekday}}$ daytime (07:00-23:00) sound pressure level;
 - $L_{pAeq,8hr\text{ weekday}}$ night-time (23:00-07:00) sound pressure level;
 - arithmetic average of $L_{pAFmax,5min}$ night-time sound pressure level; and
 - highest $L_{pAFmax,5min}$ night-time sound pressure level.
 - For the construction sound assessment
 - daytime L_{pAeq} sound pressure level (Monday to Friday 07:00-19:00; Saturday 07:00-13:00);
 - evening/weekend L_{pAeq} sound pressure level (Monday to Friday 19:00-23:00; Saturday 13:00- 23:00; Sunday 07:00 to 23:00); and
 - night-time L_{pAeq} sound pressure level (Monday to Sunday 23:00-07:00).
- 3.2.2 The values above are presented in Table 1. The data source coding included within this table details how the baseline sound levels allocated to each assessment location have been derived. This coding is summarised in Table 2 and explained in detail in Volume 5: Appendix SV-001-000.

Appendix SV-002-015

Table 1: Existing baseline sound levels

Assessment location ID	Area represented	Measurement location	Existing baseline sound level (dB)							Data source coding
			For operational sound assessment				For construction sound assessment			
			Daytime L _{pAeq,16hr}	Night-time L _{pAeq,8hr}	Arithmetic average of night-time L _{pAFmax,5min}	Highest night-time L _{pAFmax,5min}	Daytime L _{pAeq}	Evening/weekend L _{pAeq}	Night-time L _{pAeq}	
250347	Appletree, Daventry	CS4023	53.9	53.0	46.9	85.0	54.3	48.6	53.0	1,A,ii,b
250363	Unnamed Road, Aston Le Walls	CS4023	53.9	53.0	46.9	85.0	54.3	48.6	53.0	1,A,ii,b
250944	Mill Lane, Chipping Warden	CS3045	49.5	39.8	48.0	68.7	50.1	46.0	39.7	1,A,ii,b
251074	Hogg End, Chipping Warden	CS3045	49.5	39.8	48.0	68.7	50.1	46.0	39.7	1,A,ii,b
251187	Mill Lane, Chipping Warden	CS3045	49.5	39.8	48.0	68.7	50.1	46.0	39.7	1,A,iii,b
251231	Culworth Road, Chipping Warden	CS3045	49.5	39.8	48.0	68.7	50.1	46.0	39.7	1,A,i,a
251253	Byfield Road, Chippingen	CS3045	49.5	39.8	48.0	68.7	50.1	46.0	39.7	1,A,ii,b
251398	Byfield Road, Chipping Warden	CS0009	67.2	62.3	69.1	88.9	67.8	64.2	61.5	3,A,ii,b
251478	Appletree Road, Chipping Warden	CS0028	50.6	45.7	52.0	71.8	51.2	47.6	44.9	1,A,ii,b
251564	Appletree Road, Chipping Warden	CS0028	50.6	45.7	52.0	71.8	51.2	47.6	44.9	1,A,ii,b
251660	Byfield Road, Chipping Warden	CS0009	57.9	53.0	69.1	88.9	58.5	54.9	52.2	3,C,ii,b
252223	Byfield Road, Chipping Warden	CS0028	50.6	45.7	52.0	71.8	51.2	47.6	44.9	1,A,ii,b
252318	Byfield Road, Chipping Warden	CS0009	67.2	62.3	69.1	88.9	67.8	64.2	61.5	3,A,ii,b
252931	Banbury Road, Lower Boddington	CS0001	48.1	41.4	54.0	83.7	48.8	47.6	41.4	3,C,ii,b
253157	Wormleighton, Southam	CS0077	48.4	39.7	43.1	62.1	48.9	45.0	38.4	1,A,iii,b
253196	Lower Boddington, Daventry	CS0077	48.4	39.7	43.1	62.1	48.9	45.0	38.4	1,A,iii,b

Assessment location ID	Area represented	Measurement location	Existing baseline sound level (dB)							Data source coding
			For operational sound assessment				For construction sound assessment			
			Daytime L _{pAeq,16hr}	Night-time L _{pAeq,8hr}	Arithmetic average of night-time L _{pAFmax,5min}	Highest night-time L _{pAFmax,5min}	Daytime L _{pAeq}	Evening/weekend L _{pAeq}	Night-time L _{pAeq}	
253215	Lower Boddington, Daventry	CS0077	48.4	39.7	43.1	62.1	48.9	45.0	38.4	1,A,ii,b
253243	Lower Boddington, Daventry	CS0077	48.4	39.7	43.1	62.1	48.9	45.0	38.4	1,A,ii,b
253407	Lower Boddington, Daventry	CS0077	48.4	39.7	43.1	62.1	48.9	45.0	38.4	1,A,iii,b
253775	Unnamed Road, Aston Le Walls	CS4023	53.9	53.0	46.9	85.0	54.3	48.6	53.0	1,A,ii,b
253881	Millers Close, Lower Boddington	CS0001	58.1	51.4	54.0	83.7	58.8	57.6	51.4	3,A,ii,b
253905	Banbury Road, Lower Boddington	CS1023	51.9	49.7	58.8	77.9	51.6	49.1	46.8	1,A,ii,b
253911	Banbury Road, Lower Boddington	CS1023	51.9	49.7	58.8	77.9	51.6	49.1	46.8	1,A,ii,b
253999	Banbury Road, Lower Boddington	CS0001	48.1	41.4	54.0	83.7	48.8	47.6	41.4	3,B,ii,b
254077	The Paddock, Lower Boddington	CS4009	42.0	35.3	30.9	60.6	43.0	41.8	35.6	3,A,i,a
254410	Owl End Way, Lower Boddington	CS4009	42.0	35.3	30.9	60.6	43.0	41.8	35.6	3,A,ii,b
254441	Hill Road, Lower Boddington	CS0003	49.9	40.4	51.3	76.2	52.0	49.5	41.6	3,A,ii,b
254458	Hill Road, Lower Boddington	CS0003	49.9	40.4	51.3	76.2	52.0	49.5	41.6	3,A,ii,b
254530	Hill Road, Lower Boddington	CS4080	44.4	34.9	42.1	67.0	45.1	42.6	34.7	1,A,ii,b
254549	Banbury Road, Lower Boddington	CS4010	57.5	50.8	53.2	82.8	58.4	57.2	51.0	1,A,i,a
254552	Lower Boddington, Daventry	CS4080	44.4	34.9	42.1	67.0	45.1	42.6	34.7	1,A,i,a
255547	Butlers Close, Aston Le Walls	CS1022	44.4	39.6	48.8	52.6	45.0	43.0	39.6	1,A,ii,b
255726	Blacksmiths Lane, Aston Le Walls	CS0004	53.0	51.6	51.3	89.3	53.4	47.7	51.6	3,A,ii,b

Assessment location ID	Area represented	Measurement location	Existing baseline sound level (dB)							Data source coding
			For operational sound assessment				For construction sound assessment			
			Daytime L _{pAeq,16hr}	Night-time L _{pAeq,8hr}	Arithmetic average of night-time L _{pAFmax,5min}	Highest night-time L _{pAFmax,5min}	Daytime L _{pAeq}	Evening/weekend L _{pAeq}	Night-time L _{pAeq}	
255782	Blacksmith'S Lane, Aston Le Walls	CS0004	53.0	51.6	51.3	89.3	53.4	47.7	51.6	3,A,ii,b
255852	Main Street, Aston Le Walls	CS1022	44.4	39.6	48.8	52.6	45.0	43.0	39.6	1,A,ii,b
256033	Blacksmiths Lane, Aston Le Walls	CS0004	53.0	51.6	51.3	89.3	53.4	47.7	51.6	3,A,i,a
256202	Blacksmiths Lane, Aston Le Walls	CS1022	44.4	39.6	48.8	52.6	45.0	43.0	39.6	1,A,ii,b
256231	Main Street, Aston Le Walls	CS0004	53.0	51.6	51.3	89.3	53.4	47.7	51.6	3,A,ii,b
256498	Welsh Road, Aston Le Walls	CS0004	53.0	51.6	51.3	89.3	53.4	47.7	51.6	3,A,iii,b
256905	Lower Boddington, Daventry	CS0077	48.4	39.7	43.1	62.1	48.9	45.0	38.4	1,A,i,a
256919	Unnamed Road, Boddington	CS0077	48.4	39.7	43.1	62.1	48.9	45.0	38.4	1,A,ii,b
256946	The Green, Lower Boddington	CS0003	49.9	40.4	51.3	76.2	52.0	49.5	41.6	3,A,ii,b
257184	Appletree Lane, Aston Le Walls	CS0004	53.0	51.6	51.3	89.3	53.4	47.7	51.6	3,A,iii,b
257741	Banbury Lane, Thorpe Mandeville	CS5120	51.1	41.2	42.9	64.3	52.2	50.5	41.2	1,A,ii,b
257763	Unnamed Road, Thorpe Mandeville	CS0036	45.6	39.1	45.9	73.3	46.4	46.4	39.4	1,A,ii,b
257793	Banbury Lane, Thorpe Mandeville	CS4001	45.9	39.2	45.6	61.1	46.6	44.6	38.5	1,A,i,a
257837	Banbury Lane, Thorpe Mandeville	CS4001	45.9	39.2	45.6	61.1	46.6	44.6	38.5	1,A,ii,b
257909	The Warren, Thorpe Mandeville	CS0008	49.4	42.7	54.5	70.1	50.1	48.1	42.0	3,A,ii,b
257958	Townsend Lane, Thorpe Mandeville	CS4001	45.9	39.2	45.6	61.1	46.6	44.6	38.5	1,A,iii,b
257990	Banbury Lane, Thorpe Mandeville	CS4001	45.9	39.2	45.6	61.1	46.6	44.6	38.5	1,A,iii,b

Assessment location ID	Area represented	Measurement location	Existing baseline sound level (dB)							Data source coding
			For operational sound assessment				For construction sound assessment			
			Daytime L _{pAeq,16hr}	Night-time L _{pAeq,8hr}	Arithmetic average of night-time L _{pAFmax,5min}	Highest night-time L _{pAFmax,5min}	Daytime L _{pAeq}	Evening/weekend L _{pAeq}	Night-time L _{pAeq}	
258009	Banbury Lane, Thorpe Mandeville	CS4001	45.9	39.2	45.6	61.1	46.6	44.6	38.5	1,A,ii,b
258271	Greatworth, Banbury	CS5106	42.5	35.7	43.6	59.4	43.5	43.4	36.3	1,A,ii,b
258470	Culworth Road, Chipping Warden	CS0103	47.2	43.9	46.4	70.1	47.9	46.5	44.0	1,A,ii,b
258653	Edgcote, Banbury	CS1400	51.5	48.0	57.2	82.8	51.6	50.9	48.0	3,A,ii,b
258741	Edgcote, Banbury	CS1403	41.2	32.6	45.4	49.1	41.7	39.3	32.6	4,A,ii,b
258773	Edgcote, Banbury	CS1403	41.2	32.6	45.4	49.1	41.7	39.3	32.6	4,A,ii,b
258938	Edgcote, Banbury	CS1403	41.2	32.6	45.4	49.1	41.7	39.3	32.6	4,A,i,a
259013	Culworth Road, Chipping Warden	CS0016	45.2	36.3	44.4	71.1	45.8	43.1	35.7	1,A,ii,b
259052	Byfield Road, Chipping Warden	CS0028	50.6	45.7	52.0	71.8	51.2	47.6	44.9	1,A,ii,b
259138	Edgcote, Banbury	CS0016	45.2	36.3	44.4	71.1	45.8	43.1	35.7	1,A,iii,b
259161	Edgcote, Banbury	CS1400	51.5	48.0	57.2	82.8	51.6	50.9	48.0	3,A,ii,b
259421	Thorpe Mandeville, Banbury	CS0036	45.6	39.1	45.9	73.3	46.4	46.4	39.4	1,A,ii,b
259611	Chipping Warden, Banbury	CS1200	46.0	42.5	45.8	71.4	46.1	45.4	42.5	1,A,iii,b
259666	Thorpe Mandeville, Banbury	CS4015	44.3	34.3	42.3	60.6	45.0	41.3	34.0	1,A,i,a
259722	Thorpe Mandeville, Banbury	CS1201	45.8	44.3	48.4	73.1	46.6	49.5	44.4	1,A,i,a
259796	Lower Thorpe Mandeville, Banbury	CS1021	45.3	41.1	45.2	60.2	45.6	43.3	41.0	1,A,i,a
259849	Banbury Lane, Thorpe Mandeville	CS1021	45.3	41.1	45.2	60.2	45.6	43.3	41.0	1,A,ii,b

Assessment location ID	Area represented	Measurement location	Existing baseline sound level (dB)							Data source coding
			For operational sound assessment				For construction sound assessment			
			Daytime L _{pAeq,16hr}	Night-time L _{pAeq,8hr}	Arithmetic average of night-time L _{pAFmax,5min}	Highest night-time L _{pAFmax,5min}	Daytime L _{pAeq}	Evening/weekend L _{pAeq}	Night-time L _{pAeq}	
259855	Banbury Lane, Thorpe Mandeville	CS1213	46.7	40.6	49.0	70.3	47.1	44.5	40.4	1,A,i,a
260205	Culworth, Banbury	CS4001	45.9	39.2	45.6	61.1	46.6	44.6	38.5	1,A,iii,b
260795	Culworth Road, Chippingen	CS3045	49.5	39.8	48.0	68.7	50.1	46.0	39.7	1,A,ii,b
260837	Trafford Bridge, Culworth	CS1200	46.0	42.5	45.8	71.4	46.1	45.4	42.5	1,A,i,a
270850	Brackley Road, Greatworth	CS4003	46.2	41.8	49.4	67.9	46.7	48.0	40.9	1,A,iii,b
271017	Helmdon Road, Greatworth	CS4002	46.5	37.4	42.7	64.9	47.3	44.4	35.8	1,A,iii,b
271112	Helmdon Road, Greatworth	CS4002	46.5	37.4	42.7	64.9	47.3	44.4	35.8	1,A,iii,b
271147	Chapel Road, Greatworth	CS4002	46.5	37.4	42.7	64.9	47.3	44.4	35.8	1,A,iii,b
271324	Pargeter Close, Greatworth	CS4003	46.2	41.8	49.4	67.9	46.7	48.0	40.9	1,A,iii,b
271435	Greatworth, Banbury	CS4002	46.5	37.4	42.7	64.9	47.3	44.4	35.8	1,A,iii,b
271468	Helmdon Road, Greatworth	CS5114	47.3	39.3	43.5	60.1	48.2	47.4	39.3	1,A,ii,b
271489	Helmdon Road, Greatworth	CS0047	46.2	41.2	49.6	71.9	47.2	47.3	41.0	1,A,ii,b
271527	Helmdon Road, Greatworth	CS4002	46.5	37.4	42.7	64.9	47.3	44.4	35.8	1,A,i,a
271605	Whitton Close, Greatworth	CS4003	46.2	41.8	49.4	67.9	46.7	48.0	40.9	1,A,ii,b
271635	Whitton Close, Greatworth	CS4003	46.2	41.8	49.4	67.9	46.7	48.0	40.9	1,A,i,a
271662	Whitton Close, Greatworth	CS4003	46.2	41.8	49.4	67.9	46.7	48.0	40.9	1,A,ii,b
271759	Peveril Road, Greatworth	CS4003	46.2	41.8	49.4	67.9	46.7	48.0	40.9	1,A,ii,b

Assessment location ID	Area represented	Measurement location	Existing baseline sound level (dB)							Data source coding
			For operational sound assessment				For construction sound assessment			
			Daytime L _{pAeq,16hr}	Night-time L _{pAeq,8hr}	Arithmetic average of night-time L _{pAFmax,5min}	Highest night-time L _{pAFmax,5min}	Daytime L _{pAeq}	Evening/ weekend L _{pAeq}	Night-time L _{pAeq}	
271846	Peveril Road, Greatworth	CS4003	46.2	41.8	49.4	67.9	46.7	48.0	40.9	1,A,ii,b
271997	Helmdon Road, Greatworth	CS4002	46.5	37.4	42.7	64.9	47.3	44.4	35.8	1,A,ii,b
272012	Helmdon Road, Greatworth	CS4002	46.5	37.4	42.7	64.9	47.3	44.4	35.8	1,A,ii,b
272057	Westhorp, Greatworth	CS4003	46.2	41.8	49.4	67.9	46.7	48.0	40.9	1,A,ii,b
272291	Greatworth, Banbury	CS0049	68.2	57.9	67.9	82.0	69.0	68.6	57.9	1,A,i,a
272333	Helmdon Road, Greatworth	CS5114	47.3	39.3	43.5	60.1	48.2	47.4	39.3	1,A,ii,b
272985	Halse, Brackley	CS4012	48.4	35.2	42.7	58.9	49.1	42.9	34.5	1,A,iii,b
273039	Greatworth, Banbury	CS5106	42.5	35.7	43.6	59.4	43.5	45.6	36.3	1,A,i,a
273073	B4525, Greatworth	CS4012	48.4	35.2	42.7	58.9	49.1	42.9	34.5	1,A,i,a
273083	Greatworth, Banbury	CS4012	48.4	35.2	42.7	58.9	49.1	42.9	34.5	1,A,ii,b
273323	Greatworth, Banbury	CS4012	48.4	35.2	42.7	58.9	49.1	42.9	34.5	1,A,ii,b
700435	Chipping Warden, Banbury	CS0016	45.2	36.3	44.4	71.1	45.8	43.1	35.7	1,A,iii,b
700436	Appletree Road, Chipping Warden	CS4023	53.9	53.0	46.9	85.0	54.3	48.6	53.0	1,A,ii,b
700437	Appletree, Daventry	CS4023	53.9	53.0	46.9	85.0	54.3	48.6	53.0	1,A,ii,b
700438	Claydon, Banbury	CS4023	53.9	53.0	46.9	85.0	54.3	48.6	53.0	1,A,ii,b
700439	Frog Lane, Upper Boddington	CS4080	44.4	34.9	42.1	67.0	45.1	42.6	34.7	1,A,iii,b
700440	Warwick Road, Upper Boddington	CS4080	44.4	34.9	42.1	67.0	45.1	42.6	34.7	1,A,iii,b

Assessment location ID	Area represented	Measurement location	Existing baseline sound level (dB)							Data source coding
			For operational sound assessment				For construction sound assessment			
			Daytime L _{pAeq,16hr}	Night-time L _{pAeq,8hr}	Arithmetic average of night-time L _{pAFmax,5min}	Highest night-time L _{pAFmax,5min}	Daytime L _{pAeq}	Evening/weekend L _{pAeq}	Night-time L _{pAeq}	
700441	Church Road, Upper Boddington	CS0077	48.4	39.7	43.1	62.1	48.9	45.0	38.4	1,A,iii,b
700442	Wormleighton, Southam	CS0077	48.4	39.7	43.1	62.1	48.9	45.0	38.4	1,A,iii,b
700443	Boddington Road, Claydon	CS0077	48.4	39.7	43.1	62.1	48.9	45.0	38.4	1,A,iii,b
700468	Main Street, Aston Le Walls	CS1022	44.4	39.2	48.8	52.6	45.0	39.2	39.2	1,A,ii,b
700469	Banbury Lane, Thorpe Mandeville	CS4001	45.9	39.2	45.6	61.1	46.6	44.6	38.5	1,A,ii,b
700491	Banbury Road, Lower Boddington	CS1023	51.9	49.7	58.8	77.9	51.6	49.1	46.8	1,A,i,a
711014	Washbrook Farm Equestrian Centre 1	CS1023	51.9	49.7	58.8	77.9	51.6	49.1	46.8	1,A,iii,b
711015	Washbrook Farm Equestrian Centre 2	CS1023	51.9	49.7	58.8	77.9	51.6	49.1	46.8	1,A,iii,b
711016	Washbrook Farm Equestrian Centre 3	CS1023	51.9	49.7	58.8	77.9	51.6	49.1	46.8	1,A,iii,b
711017	Washbrook Farm Equestrian Centre 4	CS1023	51.9	49.7	58.8	77.9	51.6	49.1	46.8	1,A,iii,b
720303	Greatworth Park	CS5106	42.5	35.7	43.6	59.4	43.5	45.6	36.3	1,A,iii,b

Table 2: Data source coding key

Code	Data source type
1	Long-term measurement location
2	Short-term (linked to simultaneous long-term)
3	Short-term (using profile from non-simultaneous long-term)
4	Short-term using standard (National Noise Incidence Study ³ or other) 24hr profile
5	Specific validated prediction
6	Predictions from other sources (Department for Environment, Food and Rural Affairs (Defra) noise maps ⁴ , etc.)
7	Generic levels

Code	Corrections applied
A	Data from above source applied directly
B	Correction applied for screening
C	Correction applied for distance from source
D	Minimum level cut-off applied

Code	Distance from measurement
i	Data applied from a measurement at or very close to the assessment location.
ii	Data applied from a local measurement location at a greater distance but noted to have equivalent acoustic climate.
iii	Data applied from a distant measurement location where sound levels would be expected to be similar.

Code	Uncertainty
a	Data are considered highly representative of the prevailing sound climate.
b	Data are considered representative of the prevailing sound climate, but variations in measured levels indicate that there may be a higher degree of uncertainty than for (a).
c	Data are considered to be an estimate of the sound climate, (e.g. taken from Defra noise maps, etc.).

³ Building Research Establishment (2002), *National Noise Incidence Study*, 2000/2001.

⁴ Defra; Noise Mapping England; <http://services.defra.gov.uk/wps/portal/noise/>; Accessed 26 July 2013.

3.3 Future baseline methodology

Construction

- 3.3.1 The assessment of noise from construction activities assumes a baseline year of 2017. As a conservative assumption, it has been assumed that no change in baseline sound levels will occur between the existing baseline (2012/13) and the future baseline year of 2017.
- 3.3.2 Due to the duration of the construction work and as the precise timing of the highest sound levels would be different in each location, using baseline sound levels for 2017 as the start of the construction period, provides a reasonable worst case assessment.
- 3.3.3 The assessment of construction traffic is based on future baseline traffic flows for 2021, as a year representative of the middle of the construction period.

Operation

- 3.3.4 There is potential for future baseline sound levels for operation (2026) to change when compared to the existing baseline sound levels (2012) as a result of changes in baseline sound sources.
- 3.3.5 In the vast majority of cases where change might occur it is expected that baseline sound levels will increase at assessment locations due to increases in vehicle movements on roads. It is therefore considered that the use of the 2012 baseline levels in the operational assessment will result in a worst case assessment of the impact of changes in the future baseline sound levels in the majority of locations.
- 3.3.6 Therefore for the purposes of this assessment future baseline levels have been assumed to be identical to those identified in Table 1 of this appendix for 2012.
- 3.3.7 In addition, based on available road traffic information a screening exercise has been undertaken to identify any areas in which a reduction in baseline sound level might be likely. Where reductions in baseline sound level have been identified a further screening assessment has been completed to identify if these changes would be likely to materially affect the operational sound assessment.
- 3.3.8 The screening assessment has not identified any locations in this area where a decrease in future baseline (2026), compared to existing baseline (2012), is likely to materially affect the operational sound assessment

4 References

Building Research Establishment (2002), *National Noise Incidence Study*, 2000/2001.

Defra; Noise Mapping England; <http://services.defra.gov.uk/wps/portal/noise/>; Accessed: 26 July 2013.